The following is a complete listing of the claims now pending; this listing replaces all earlier versions and listings of the claims.

Claim 1 (currently amended): An image processing apparatus comprising:

a saturation calculation unit, arranged to calculate saturation information of an image;

a first setting unit, arranged to set a first conversion parameter for a low-saturation side, wherein the first conversion parameter is set by converting a substantially minimum input value of a saturation of the image to a substantially minimum output value;

a second setting unit, arranged to set a second conversion parameter for a high-saturation side, wherein the second conversion parameter is set by converting a substantially maximum input value of the saturation of the image to a substantially maximum output value;

a saturation conversion characteristic generating unit, arranged to generate a saturation conversion characteristic on the basis of the first conversion parameter, for the low-saturation side, and the second conversion parameter, for the high-saturation side; and

a saturation conversion unit, arranged to convert the saturation of the image on the basis of the saturation conversion characteristic <u>generated by said saturation conversion characteristic generating unit</u>.

Claim 2 (canceled)

Claim 3 (previously presented): The apparatus according to claim 1, further comprising a conversion parameter determination unit, arranged to determine the first conversion parameter, for the low-saturation side, and the second conversion parameter, for the high-saturation side based on the saturation information.

Claim 4 (previously presented): The apparatus according to claim 1, further comprising an instruction unit, arranged to accept an instruction input by a user in order to determine the first conversion parameter, for the low-saturation side, and the second conversion parameter, for the high-saturation side.

Claims 5 and 6 (canceled)

Claim 7 (previously presented): The apparatus according to claim 1, wherein the saturation conversion characteristic exhibits a monotonic increase or a monotonic decrease.

Claims 8-11 (canceled)

Claim 12 (previously presented): The apparatus according to claim 1,

further comprising:

a detection unit arranged to detect a color distribution of the image;

a generation unit arranged to generate gradation correction

information of the image on the basis of the color distribution; and

a gradation correction unit arranged to perform gradation correction

of the image on the basis of the gradation correction information.

Claim 13 (previously presented): The apparatus according to claim 12,

wherein said saturation conversion unit performs saturation conversion on an image which

has undergone gradation correction by said gradation correction unit.

Claim 14 (previously presented): The apparatus according to claim 12,

wherein said generation unit comprises:

a highlight calculation unit arranged to calculate highlight area

information of an image on the basis of the color distribution; and

a white balance calculation unit arranged to calculate white balance

information on the basis of the highlight area information and a predetermined highlight

value, and wherein said gradation correction unit corrects gradation of the image on the

basis of the white balance information and the highlight value.

Claim 15 (previously presented): The apparatus according to claim 12, wherein said generation unit comprises:

a shadow calculation unit arranged to calculate shadow area information of an image; and

a black balance calculation unit arranged to calculate black balance information on the basis of the shadow area information and a predetermined shadow value, wherein said gradation correction unit corrects gradation of the image on the basis of the black balance information and the shadow value.

Claim 16 (currently amended): An image processing method comprising:

a saturation calculation step, of calculating saturation information of an image;

a first setting step, of setting a first conversion parameter for a low-saturation side, wherein the first conversion parameter is set by converting a substantially minimum input value of a saturation of the image to a substantially minimum output value;

a second setting step, of setting a second conversion parameter for a high-saturation side, wherein the second conversion parameter is set by converting a substantially maximum input value of the saturation of the image to a substantially maximum output value;

a saturation conversion characteristic generating step, of generating a saturation conversion characteristic on the basis of the first conversion parameter, for the low-saturation side, and the second conversion parameter, for the high-saturation side; and

a saturation conversion step, of converting the saturation of the

image on the basis of the saturation conversion characteristic <u>generated in said saturation</u>

<u>conversion characteristic generating step</u>.

Claim 17 (canceled)

Claim 18 (previously presented): The method according to claim 16, further

comprising a conversion parameter determination step, of determining the first conversion

parameter, for the low-saturation side, and the second conversion parameter, for the high-

saturation side based on the saturation information.

Claim 19 (currently amended): A recording medium comprising program

codes of an image processing method, and at least comprising:

code for a saturation calculation step, of calculating saturation

information of an image;

code for a first setting step, of setting a first conversion parameter

for a low-saturation side<u>, wherein the first conversion parameter is set by converting a</u>

<u>substantially minimum input value of a saturation of the image to a substantially minimum</u>

<u>output value</u>;

code for a second setting step, of setting a second conversion

parameter for a high-saturation side<u>, wherein the second conversion parameter is set by</u>

converting a substantially maximum input value of the saturation of the image to a substantially maximum output value;

code for a saturation conversion characteristic generating step, of generating a saturation conversion characteristic on the basis of the first conversion parameter, for the low-saturation side, and the second conversion parameter, for the high-saturation side; and

code for a saturation conversion step, of converting the saturation of the image on the basis of the saturation conversion characteristic generated by said code for a saturation conversion characteristic generating step.

Claim 20 (previously presented): The method according to claim 16, further comprising an instruction step, of accepting an instruction input by a user in order to determine the first conversion parameter, for the low-saturation side, and the second conversion parameter, for the high-saturation side.

Claim 21 (new): An image processing method for setting a conversion characteristic and converting image data by using a set conversion characteristic, said method comprising:

a first setting step, of setting a first conversion parameter for a low-level side of an image, wherein the first conversion parameter is set by converting a substantially minimum input value of the image to a substantially minimum output value;

a second setting step, of setting a second conversion parameter for a high-level side of the image, wherein the second conversion parameter is set by converting a substantially maximum input value of the image to a substantially maximum output value;

a conversion characteristic generating step, of generating a conversion characteristic on the basis of the first conversion parameter, for the low-level side, and the second conversion parameter, for the high-level side; and

a conversion step, of converting the image data on the basis of the conversion characteristic generated in said conversion characteristic generating step.

Claim 22 (new): A recording medium comprising program code for performing an image processing method for setting a conversion characteristic and converting image data by using a set conversion characteristic, said program code comprising:

code for a first setting step, of setting a first conversion parameter for a low-level side of an image, wherein the first conversion parameter is set by converting a substantially minimum input value of the image to a substantially minimum output value;

code for a second setting step, of setting a second conversion parameter for a high-level side of the image, wherein the second conversion parameter is set by converting a substantially maximum input value of the image to a substantially maximum output value;

code for a conversion characteristic generating step, of generating a

conversion characteristic on the basis of the first conversion parameter, for the low-level

side, and the second conversion parameter, for the high-level side; and

code for a conversion step, of converting the image data on the basis

of the conversion characteristic generated by said code for a conversion characteristic

generating step.